

REMARKS

Claims 1, 3, 4, 6-10 and 13-19 are pending in the present application. Claim 1 is in independent form. Claims 14-19 are withdrawn. Claims 1 and 7-9 are amended. Claims 11 and 12 are cancelled. In view of the above amendments and the following remarks, favorable reconsideration and allowance of the present application is respectfully requested.

I. **CLAIM AMENDMENTS**

By the present Amendment, claims 1 and 7-9 are amended. The amendments to claim 1 are supported, at least, by original claims 7-10. Claims 7-9 are amended to provide proper antecedent basis.

Thus, Applicants submit that the claim amendments do not introduce new matter.

Furthermore, entry of this amendment is proper under 37 CFR §1.116 since the amendments: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issues requiring further search and/or consideration since the amendments amplify issues previously discussed throughout prosecution (see page 3 of the Action); (c) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (d) place the application in better form for appeal, should an appeal be necessary.

Entry of the amendments is thus respectfully requested.

II. CLAIM OBJECTION

Claim 1 stands objected to due to informalities. In particular, the objection states that the word "of" should be inserted after the word "providing" in the first line of claim 1.

By the present Amendment, claim 1 is amended to recite "[a] method for ~~the~~ providing Brassica varieties with elevated levels of anticarcinogenic glucosinolates..."

Therefore, the objection is overcome. Withdrawal of the objection is thus respectfully requested.

III. CITED ART REJECTION

Claims 1, 3, 4 and 6-13 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Mithen et al. (hereinafter "Mithen"), U.S. Patent No. 6,340,784 B1. Applicants respectfully traverse the rejection.

Amended independent claim 1 is directed to a method for providing Brassica varieties with elevated levels of anticarcinogenic glucosinolates wherein (*inter alia*) "the cultivated Brassica oleracea plant is sprouting broccoli (Brassica oleracea convar. botrytis var. asparagoides) variety Bordeaux or savoy cabbage (Brassica oleracea convar. capitata var. sabauda) variety Wirosa." Applicants submit that Mithen fails to explicitly teach, or otherwise suggest, the above features recited in amended independent claim 1.

First, the rejection states that "...the term 'cultivated' merely means that a plant has been subjected to cultivation. Furthermore, the term 'cultivated' merely means that a plant has been subjected to cultivation. Therefore, any plant species and/or variety would be considered a cultivated plant when tended to for promotion of growth, including each of the varieties and species used in crosses that are taught by Mithen et al." Action, p. 4.

Applicants submit that amended independent claim 1 now recites that the cultivated Brassica oleracea plant is "sprouting broccoli (Brassica oleracea convar. botrytis var. asparagoides) variety Bordeaux" or "savoy cabbage (Brassica oleracea convar. capitata var. sabauda) variety Wirosa." Applicants submit that the two recited Brassica varieties are not disclosed, or suggested, by Mithen.

Secondly, the rejection states that,

The Examiner maintains that Mithen et al used cultivated Brassica species and that varieties used in Mithen's crosses had elevated glucosinolate levels relative to other varieties, as stated above. Mithen et al teach crossing Brassica varieties to produce Brassica plants having elevated levels of glucosinolates. Furthermore, applicant's specification only discloses one Brassica oleracea variety, Wirosa, having at least that 280 micromoles per 100 gm fresh weight and 120 micromoles per 100 gm fresh weight. However, there is no disclosure of crossing this variety with another Brassica oleracea to produce elevated levels of glucosinolates in the progeny plants. It is noted that the varieties set forth in Table 4 in the specification are varieties that were known in the prior art, and it would have been obvious to cross known varieties of Brassica to produce varieties with increased levels of glucosinolates, as taught by Mithen et al.

Action, p. 5-6.

However, Mithen teaches that, “[t]he selection of broccoli with elevated levels of anticarcinogenic glucosinolates **is not possible** in the present commercial genetic background used to develop commercial broccoli cultivars.” Mithen, col. 7, ll. 11-14. Thus, Mithen teaches that the selection of the cultivated Brassica with elevated levels of anticarcinogenic glucosinolates **is not possible** given the commercial genetic background of Mithen used to develop Bordeaux and Wirosa (*i.e.*, commercial broccoli cultivar).

Furthermore, the Examiner appears to suggest that the present application does not experimentally show that a cross of Bordeaux or Wirosa with another Brassica plant would result in a transfer of the trait to this other Brassica plant. That is, the Examiner appears to suggest that transferring a trait from one species to another other (*i.e.*, classical breeding) should be demonstrated.

However, MPEP §2164.03 states that “[t]he more that is known in the prior art about the nature of the invention, how to make, and how to use the invention, and the more predictable the art is, the less information needs to be explicitly stated in the specification.”

Thus, in addition to the fact that the Examiner relies on Mithen to teach classical breeding, the Examiner has not demonstrated why the basic

principle of plant breeding (*i.e.*, crossing in traits from one species to another) is not plausible for the present application.

Thirdly, even assuming *arguendo* that one of ordinary skill were motivated to cross known varieties of *Brassica* to produce varieties with increased levels of glucosinolates (which Applicants do not agree with), Mithen discloses “cultivated” *Brassica* varieties with a maximum of 16.6 μ moles/g dry weight glucosinolates (Trixie) in Table 1, and also varieties (*e.g.*, Green Comet) with an almost 4 times less content of glucosinolates. However, the cultivated *Brassica* varieties according to example embodiments include 53.3 μ moles/g dry weight glucosinolates (Bordeaux) and 48 μ moles/g dry weight glucosinolates (Wirosa), which are values reported for the wild varieties used by Mithen. See Table 4.

Thus, Applicants submit that a skilled person in search of increasing the glucosinolate content of a *Brassica* plant would not be motivated to look for this trait in all known cultivars knowing that the only donor plants deemed suitable by Mithen include a glucosinolate content only observed in wild species.

For at least these reasons, Applicants submit that Mithen fails to explicitly teach, or otherwise suggest, a method for providing Brassica varieties with elevated levels of anticarcinogenic glucosinolates wherein “the cultivated Brassica oleracea plant is sprouting broccoli (Brassica oleracea convar. botrytis var. asparagoides) variety Bordeaux or savoy cabbage

(Brassica oleracea convar. capitata var. sabauda) variety Wirosa" as recited in amended independent claim 1.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection to independent claim 1, and claims 3, 4, 6-10 and 13 at least by virtue of their dependency on independent claim 1.

IV. REQUEST FOR REJOINDER

In the event that independent claim 1 is found allowable, Applicants respectfully request rejoinder of withdrawn claims 14-19, which depend on and therefore require all of the limitation of claim 1.

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CONCLUSION

Accordingly, in view of the above, reconsideration of the objection and rejection, and allowance of each of claims 11, 3, 4, 6-10 and 13-19 in connection with the present application is earnestly solicited.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) hereby petition(s) for a one (1) month extension of time for filing a reply to the outstanding Office Action and submit the required \$130.00 extension fee herewith.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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